



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/652,020	08/29/2003	Igor I. Ageyev	TUC920030062US1	9668
49080	7590	12/20/2006	EXAMINER	
DALE F. REGELMAN 4231 S. FREMONT AVENUE TUCSON, AZ 85714			RAMPURIA, SATISH	
			ART UNIT	PAPER NUMBER
			2191	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		12/20/2006	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/652,020	AGEYEV ET AL.	
	Examiner Satish S. Rampuria	Art Unit 2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 29 August 2003.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-16 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-16 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 29 August 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>8/29/03</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

1. This action is in response to the application filed on August 29, 2003.
2. Claims 1-16 are pending.

Information Disclosure Statement

3. An initialed and dated copy of Applicant's IDS form 1449 filed on August 29, 2003 is attached to the instant Office action.

Oath/Declaration

4. The Office acknowledges receipt of a properly signed oath/declaration filed August 29, 2003.

Claim Objections

5. Claim 12 is objected to because of the following informalities: word "usable with a" is twice in the preamble. Appropriate correction is required.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claim 12-16 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 12 is non-statutory because the language of the claim raises a question as to whether the claim is directed merely to an abstract idea which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. Claim recites computer program produce... having computer readable program code, representing functional descriptive material without a computer readable storage medium or a memory, program code per se are not tangibly embodied. Claims 13-16 are directly or indirectly dependent on claim 12 and further support recites computer program produce... having computer readable program code without a computer readable storage medium or a memory, program code per se are not tangibly embodied thus amounts to only abstract idea and are nonstatutory.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7-9
9. Claims 1-3 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by US Publication No. 2002/0129339 to Callahan, II et al. (hereinafter, Callahan).

Per claim 1:

Callahan discloses:

- A method to generate a formatted trace for a second device embedded in a first device, comprising the steps of:
 - providing source code comprising a trace entry (paragraph [0040] "...generate the trace information...target source code of interest is compiled");
 - compiling by said first device said source code to form a second device code image comprising a trace description string and a trace description string address (paragraph [0040] "target source code of interest is compiled... executing the resulting executable code will generate execution trace information... event stores trace information related to a variety of performance measures...");
 - assigning said trace description string address as the traceId (paragraph [0105] "...Each event entry... being an Event ID, the address of the descriptor object to which the event corresponds");
 - creating a database comprising said trace description string and said trace description string address (paragraph [0040] "...Each event stores trace information related to a variety of performance measures for the one or more processors and protection domains used...");
 - uploading said second device code image to said second device (paragraph [0040] "Each event stores trace information related to...one or more processors and protection domains used");
 - generating trace data using said second device code image (paragraph [0040] "...generating a variety of trace information...during execution of the task");

- downloading said trace data to said first device (paragraph [0040] “Each event stores trace information related to...one or more processors and protection domains used”);
- merging said trace data and said database (paragraph [0040] “The trace information description file contains information that describes the types of execution events as well as the structure of the stored information”); and
- forming a formatted trace (paragraph [0040] “system uses the trace information description file... to extract and format trace information for display...”).

Per claim 2:

The rejection of claim 1 is incorporated and further, Callahan discloses:

- wherein said uploading step and said generating step further comprise the steps of: forming a stripped code by removing said trace description string from said second device code image (paragraph [0040] “system uses the trace information description file to organize the information in the trace information file, extracts (strips) a variety of types of performance measure information from the organized trace information, and formats the extracted information for display”, emphasis added);
- uploading said stripped code to said second device (paragraph [0040] “...generating a variety of trace information...during execution of the task”);
- generating trace data using said stripped code (paragraph [0040] “system uses the trace information description file... to extract and format trace information for display...”).

Per claim 3:

Art Unit: 2191

The rejection of claim 1 is incorporated and further, Callahan discloses:

- providing trace directives (paragraph [0058] “executing code to generate trace information...adding an appropriate compiler directive...”);
- detecting said trace entry (paragraph [0040] “...generate the trace information...target source code of interest is compiled”);
- forming a trace statement using said directives and said trace entry (paragraph [0058] “When the source code is compiled, the compiler directive will instruct the compiler to add the appropriate code for the sample point at that location”).

Claims 7-9 are the computer product claim corresponding to method claims 1-3 respectively, and rejected under the same rational set forth in connection with the rejection of claims 1-3 respectively, above.

Claims 12-14 are the computer product claim corresponding to method claims 1-3 respectively, and rejected under the same rational set forth in connection with the rejection of claims 1-3 respectively, above.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2191

11. Claims 4, 5, 6, 10, 11, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Callahan in view of US Publication No. 2005/0028145 to Kang et al. (hereinafter, Kang).

Per claim 4:

Callahan does not explicitly disclose providing a trace entry comprising a trace macro; replacing by said pre-processor said trace macro with a function call using said directives.

However, Kang discloses in an analogous computer system providing a trace entry comprising a trace macro (paragraph [0020] “error trace statements may be macros inserted”); replacing by said pre-processor said trace macro with a function call using said directives (paragraph [0020] “error trace statements may be macros inserted into the source code so that the entire error trace in a library may be easily reduced to no-ops at compile time... an error trace in a debug build may have more function calls recorded for a call path than in an optimized build”).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of providing a trace entry comprising a trace macro; replacing by said pre-processor said trace macro with a function call using said directives as taught by Kang into the method of generating a formatted trace as taught by Callahan. The modification would be obvious because one of ordinary skill in the art would be motivated to provide a trace entry with a trace macro and replacing with a function call to provide a flexible error trace mechanism as suggested by Kang (paragraph [0006-0007]).

Per claim 5:

The rejection of claim 4 is incorporated and further, Callahan discloses:

- further comprising the step of forming said trace statement by said compiler using said directives (paragraph [0058] “executing code to generate trace information...adding an appropriate compiler directive... ”).

Per claim 6:

Callahan discloses:

- writing said trace data to said trace buffer (paragraph [0040] “...The trace information description file contains information that describes the types of execution events as well as the structure of the stored information...”);

Callahan does not explicitly disclose detecting an error in said second device; discontinuing writing trace data to said trace buffer.

However, Kang discloses in an analogous computer system detecting an error in said second device (paragraph [0028] “getErrorTrace() returns the current thread's current error trace in string format...”); discontinuing writing trace data to said trace buffer (paragraph [0028] “a C/C++API internal function may decide when or whether to record an error trace element in the error trace in case of an error”).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the method of detecting an error in said second device; discontinuing writing trace data to said trace buffer as taught by Kang into the method of generating a formatted trace as taught by Callahan. The modification would be obvious

because of one of ordinary skill in the art would be motivated to detect an error and discontinue to write trace data in to a trace buffer to provide a flexible error trace mechanism as suggested by Kang (paragraph [0006-0007]).

Claims 10 and 11 are the computer product claim corresponding to method claims 4 and 5 respectively, and rejected under the same rational set forth in connection with the rejection of claims 4 and 5 respectively, above.

Claims 15 and 16 are the computer product claim corresponding to method claims 4 and 5 respectively, and rejected under the same rational set forth in connection with the rejection of claims 4 and 5 respectively, above.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Satish S. Rampuria** whose telephone number is (571) 272-3732. The examiner can normally be reached on 8:30 am to 5:00 pm Monday to Friday except every other Friday and federal holidays. Any inquiry of a general nature or relating to the status of this application should be directed to the **TC 2100 Group receptionist: 571-272-2100.**

Art Unit: 2191

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Wei Y. Zhen** can be reached on (571) 272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Satish S. Rampuria
Patent Examiner/Software Engineer
Art Unit 2191

WYZ
WEI ZHEN
SUPERVISORY PATENT EXAMINER
SUPERVISORY PATENT EXAMINER